

LISTING OF THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A method of ~~for~~ informing a receiver connected to one or more broadcast networks of a content targeting opportunity and in response, ~~for~~ the receiver to ~~exercise the opportunity by~~ selecting and displaying a version of content from a ~~selection~~ plurality of versions of content, the method comprising ~~any or all of~~ the steps of:

- ~~Securely receiving and~~ decrypting characteristics of a securely storing ~~characteristic information about the viewer,~~
- ~~Securely receiving and securely storing characteristic information about a~~ selection of content, and
- ~~Securely receiving and securely storing characteristic information about viewing~~ opportunities;
- ~~Securely receiving and decrypting the viewer, content and opportunity~~ characteristics;
- ~~Determining which versions of content are~~ identifying physically accessible ~~to the~~ receiver ~~based on the characteristics of the content and the opportunity;~~
- ~~Determining which versions of the content the receiver is permitted to access;~~
- ~~Running performing~~ an opportunity matching process to determine which accessible and permitted versions of the content best match the viewer, viewing opportunity and selection of content characteristics and records of prior content viewing;
- ~~Accessing and displaying the~~ determined version of content for viewing when the content targeting opportunity is received ~~exercised;~~
- ~~Securely storing the~~ recording results of the displayed version of content ~~event~~ viewing; and
- ~~Securely reporting the~~ results of information on the version of content displayed for viewing to a reporting facility.

2. (currently amended) A method as defined in claim 1, further comprising for a receiver connected to one or more networks to select and acquire content from a selection of content for subsequent targeted content viewing opportunities comprising any or all of the steps of:

- ~~Securely receiving and securely storing characteristic information about the viewer~~
 - ~~Securely receiving and securely storing characteristic information about a selection of content~~
 - ~~Securely receiving and securely storing characteristic information about viewing opportunities~~
 - ~~Securely receiving and decrypting the viewer, content and opportunity characteristics~~
 - ~~Determining which versions of content are physically accessible to the receiver based on the characteristics of the content and the opportunity~~
 - ~~Determining which versions of the content the receiver is permitted to access~~
 - ~~Running performing a content matching process to determine which accessible and permitted versions of the content best match the viewer, viewing opportunity and selection of content characteristics and records of prior content viewing;~~
 - ~~Determining determining if a permission is available to use a storage accessible to the receiver, the storage having with characteristics suitable for real-time playback with predictable content access latency characteristics ("local storage");~~
 - ~~Determining if sufficient space is available on local storage, and deleting any stored content that is less-suitable than the determined version of content if sufficient the storage to make space is not available; and~~
 - ~~Acquiring and storing the determined version of content on the local storage.~~
- ~~OPPORTUNITY TYPES~~

3. (currently amended) The method of claim 1, ~~where~~ wherein the content targeting opportunity is provided in response to an ~~based on the invocation of a function or group of one or more functions on the receiver device.~~

4. (currently amended) The method of claim 1, ~~where~~ wherein ~~a the~~ type of the version of content is determined in accordance with ~~selected can be based on~~ the characteristics of the viewing opportunity.

5. (currently amended) The method of claim 1, ~~where~~ wherein the characteristics of the viewing opportunity ~~and/or~~ and selection of content can cause the opportunity matching process to ~~select-determine~~ the version of content in accordance with ~~for display based on~~ the timing ~~and/or~~ and the version of content determined selection for prior content targeting opportunities.

6. (currently amended) The method of claim 1, ~~where~~ wherein the characteristics of the viewing opportunity ~~and/or~~ and selection of content can cause the opportunity matching process not to ~~select-determine~~ any version of content ~~for display~~ based on the timing ~~and/or~~ and content determined selection for prior content targeting opportunities.

CONDITIONAL ACCESS

7. (currently amended) The method of ~~claims 1,~~ claim 2, wherein the opportunity matching process ~~and/or~~ and the content matching process ~~can be are performed~~ executed in whole or in part within one or more components of a the receiver ~~and/or to one or more devices on a network~~.

8. (currently amended) The method of claim ~~[[1]]~~7, ~~where~~ wherein the viewer characteristics ~~can be located~~ are stored in whole or in part within one or more components of ~~[[a]]~~ the receiver ~~and/or to or~~ or one or more devices on ~~[[a]]~~ the network.

9. (currently amended) The method ~~methods~~ of claim ~~[[1]]~~8, ~~where~~ wherein the steps of storing ~~any or all of the permission to access storage, the storage of some or all of the~~ characteristics, performing ~~the execution of all or a portion of~~ the opportunity matching process and/or the content matching process, recording of ~~the storage of the content-viewing results, and~~ reporting of ~~the communication or the viewing results~~ are ~~can be~~ performed and managed on one or more of the facilities selected from ~~of the following facilities:~~

•——— a smart card,

• ~~_____a security module which can include~~ including software and interfaces to the receiver and a smart card,

• ~~_____the facilities of an analog or digital television conditional access system, which may include including any of a smart card, a security module and other hardware within the system,~~

• ~~_____the facilities for an electronic commerce system, which may include including a smart card, a security module and other hardware within the system,~~

• ~~_____a smart card which has~~ including an operating system that allows multiple independent applications,

• ~~_____one or more grant/deny type servers accessible on a network,~~

• ~~_____one or more Kerberos or other ticket server systems accessible on a network, and an interactive application system including those in claim 23.~~

10. (currently amended) The method ~~methods~~ of claim ~~[[1]]9, where, in wherein whole or in part the characteristics of the content, applications and/or viewers can be~~ are encrypted prior to transmission and decrypted after reception ~~and accessed using any of the facilities of claim 9.~~

11. (currently amended) The method ~~methods~~ of claim ~~[[1]]10 where wherein the encryption and decryption can use~~ be performed on any one of the facility ~~facilities of claim 9.~~

12. (currently amended) The method of claim ~~[[1]]2, where wherein the selection of content, viewing opportunity and viewer characteristics comprise descriptors can, the descriptors include a~~ plurality of variable and extensible ~~number of~~ characteristics.

13. (currently amended) The method of claim ~~[[1]]2, where wherein all or a portion of the algorithm for algorithms of the opportunity and content matching processes for matching of the selection of content, viewer and/or and viewing opportunity characteristics, are can be~~ transmitted as one of the viewing opportunity or selection of content characteristics.

14. (currently amended) The method of claim ~~[[1]]19, where~~ wherein the viewer characteristics ~~are can be~~ independently available on the ~~receiver facilities, the viewer~~ characteristics being selected from one of ~~including any of the facilities of claim 9, including but~~ not limited to:

- ~~Postal~~ a postal code,
- ~~Telephone~~ a telephone number,
- ~~Access~~ access permissions~~[[,]]~~ including digital television service and channel authorizations,
- ~~Prior prior~~ purchases~~[[,]]~~ including television pay-per-view movies,
- ~~Viewer~~ a viewer channel selection and ~~[[EPG]]~~ an electronic program guide (EPG) display profiles, and
- ~~Viewer~~ a viewer content filtering criteria, including VCHIP settings and ratings, wherein the VCHIP locks out programming based on program rating.

15. (currently amended) The ~~method methods~~ of claim ~~[[1]]19, where~~ wherein the ~~execution of the content matching process and/or the opportunity matching process can be~~ are performed within ~~any of the facilities of claim 9, so that only some or none of the characteristics~~ are retrieved from the facilities of claim 9, and only the determination result of the content and opportunity matching processes is returned without returning any of the characteristics.

16. (currently amended) The ~~method methods~~ of ~~claims 1 and 2~~ claim 1, ~~where~~ wherein the ~~characteristic information for an instance of content can include one or more of the~~ following characteristics further comprise:

- ~~A~~ a maximum number of repetitions,
- ~~A~~ a minimum amount of time between showings,
- ~~A~~ a maximum number of incomplete repetitions,
- ~~A~~ a time window for usage,
- ~~Technical~~ technical requirements for usage of the content on the receiver,
- ~~The~~ a source or sources for the content, and
- ~~A~~ a sequence number for content consisting of multiple instances of content within a sequence.

17. (currently amended) The method ~~methods~~ of claim ~~[[1]]13~~, ~~where wherein~~ the ~~exercising~~ content targeting opportunity is provided in response to an ~~can be based on the~~ invocation of a function on the receiver, ~~including:~~ the function being selected from one of

- ~~Turning on~~ switching the receiver,
- ~~Turning~~ switching on and off the receiver,
- ~~Starting the~~ starting and pausing a playback of stored content,
- ~~Pausing the playback of stored content~~
- ~~Starting a communication session~~
- ~~Stopping~~ starting and stopping a communication session, and
- ~~Pausing the pausing and resuming~~ viewing of broadcast content through the use of time-delay storage features.
- ~~Resuming the viewing of broadcast content following the use of time delay storage features~~

18. (currently amended) The method ~~methods~~ of claim ~~[[1]]17~~, ~~where wherein~~ the content targeting opportunity can be is provided in response to based on any one of a plurality of advertising slots being available on a plurality of channels, the channels being ~~which are~~ related for the purposes of sharing the advertising on each channel and for managing and targeting the advertising opportunities.

19. (currently amended) The method ~~methods~~ of claim ~~[[1]]18~~, ~~where wherein~~ the content targeting opportunity can be is provided in response to based on any one of a plurality of advertising slots available on a single channel.

20. (currently amended) The method ~~methods~~ of claim ~~[[1]]19~~, ~~where wherein~~ the viewing opportunity and selection of content can be characteristics are based on a combination of the exercising of the content targeting opportunities based on a combination of any or all of the ~~methods of claims 16, 17, 18 and 19 and the~~ a frequency of, a time of, and a time separating the ~~exercising~~ providing of said content targeting opportunities.

21. (currently amended) The ~~method~~ methods of claim 1, ~~where~~ wherein the receiver can be connected to one or more networks include ~~which can consist of any one or more of the following, but not limited to:~~

- a direct-to-home satellite broadcasting system (DTH),
- a cable television network,
- a terrestrial radio frequency network, including ~~LMDS~~ Local Multipoint Distribution System (LMDS) and ~~MMDS~~ Multichannel Multipoint Distribution System (MMDS),
- a packet switched terrestrial network, including ATM Asynchronous Transfer Mode (ATM) and ~~DSL~~ Digital Subscriber Line (DSL) networks,
- ~~a~~ a packet switched or routed networks including ~~consisting of~~ multiple channels on multiple streams of the transport layer, ~~including but not limited to~~ and ATM virtual circuits in all their embodiments, and IP Internet Protocol (IP) unicast or multicast streams,
- a terrestrial cellular communication network, including telephone networks,
- the public telephone network,
- the Internet, through cable, a xDSL, a telephone, wireless or other broadband connection methods; including MMDS and LMDS, a terrestrial television broadcast network, including ~~NTSC~~ National Television System Committee (NTSC), ~~ATSC~~ Advanced Television Systems Committee (ATSC), ~~DVB~~ Digital Video Broadcast (DVB) and other protocols.

22. (currently amended) The ~~method~~ methods of claim ~~[[1]]~~21, ~~where the~~ wherein a transmission protocol for transmitting the characteristics includes ~~can consist of one or more of the following operating over the networks of method 21, including but not limited to:~~

- MPEG Moving Picture Experts Group (MPEG) transport streams,
- DVB transport streams,
- ~~Vertical~~ vertical blanking interval or other portions of television signals allowing the carriage of data, including ~~ATVEF~~ Advanced Television Enhancement Forum (ATVEF) transport A and transport B streams,
- ~~TCP/IP~~ Transmission Control Protocol/Internet Protocol (TCP/IP) transport streams, ~~either directly within the networks of method 21, as defined within another~~ a specification selected from a like DVB or any of the ~~IE TF~~ Internet Engineering Task Force

(IETF) specifications, and

- ~~Private~~ private data fields within a DVB Event Information Table (EIT).

23. (currently amended) The method ~~methods~~ of claim ~~[[1]]~~22, ~~where the~~ wherein algorithms, processes and characteristics ~~can be~~ are represented as part of or extensions to the specifications of one or more interactive applications and communication specifications, including ~~but not limited to:~~

- ~~JavaTV~~
- ~~OpenTV~~
- ~~ATVEF,~~
- ~~DVB-MHP~~ DVB, Multimedia Home Platform (MHP), and
- ~~WAP~~ Wireless Application Protocol (WAP)
- ~~NTT DoCoMo~~
- ~~Wink.~~

24. (currently amended) The method ~~methods~~ of claim 1, ~~where~~ wherein the receiver is selected from one of

- a digital set-top cable or satellite television receiver[[:]],
- a ~~[[set]]~~ plurality of components within a television[[:]],
- ~~[[a]]~~ personal computers with appropriate network connections,
- a cellular telephone or a personal digital assistants (PDA)[[: or]], and
- a gaming console.

25. (currently amended) The method ~~methods~~ of claim 1, ~~where~~ wherein the receiver ~~can have the ability to handle~~ handles multiple content streams simultaneously, allowing the acquisition of the characteristics and the versions of content simultaneously with the viewing of the versions content.

26. (currently amended) The method ~~methods~~ of claim 1, ~~where~~ wherein the receiver ~~can acquire~~ acquires the versions of content using viewing facilities when the receiver is not being used for viewing.

27. (currently amended) The method ~~methods~~ of claim 1, ~~where~~ wherein the versions of content alternatives can consist of are selected from content on a ~~variety~~ plurality of services ~~which are unrelated except for the synchronization of the~~ having synchronized start and end times of the content ~~alternatives~~.

28. (currently amended) The method ~~methods~~ of claim ~~[[1]]~~27, ~~where~~ wherein the versions of content alternatives can consist of are further selected from streams of alternative content ~~which can be used by a plurality of services as a source of content alternatives, and the scheduling of the alternate alternative content and the services allows~~ allow for the alternatives to be shared sharing of content among the plurality of services.

29. (currently amended) The method ~~methods~~ of claim 28 ~~where the~~ wherein a bandwidth is ~~can be~~ available from services which are not airing the content through simultaneous substitution requirements.

30. (currently amended) The method ~~methods~~ of claim 28 ~~where the~~ wherein a bandwidth is ~~can be~~ available from services which are temporarily off the air, ~~whether~~ on a regular or occasional basis.

31. (currently amended) The method ~~methods~~ of claim ~~[[1]]~~28, ~~where~~ wherein the alternative versions of content can be are available from a switched network ~~like xDSL~~ including Digital Subscriber Line (xDSL).

32. (currently amended) The method ~~methods~~ of claim ~~[[1]]~~28, ~~where~~ wherein the versions of content alternatives can be are transmitted ~~in non-real time, being either~~ faster or slower than real-time, using methods other than the primary content transfer mechanism.

33. (currently amended) The method ~~methods~~ of claim ~~[[1]]~~32, ~~where~~ wherein the start point for ~~the switch~~ switching to an alternative content stream is ~~can be~~ based on timing relative to a reference clock, ~~where the relative clock including clocks consists of any one of:~~ A

• ——— A a time-of-day reference time stream available to the receiver, ~~of which the DVB~~

a Digital Video Broadcast (DVB), a time date table (TDT), is an example

• ~~An MPEG~~ a Moving Picture Experts Group (MPEG) presentation time stamp (PTS), and

• ~~An a MPEG display time stamp (DTS~~ (DTS).

34. (currently amended) The method ~~methods~~ of claim ~~[[1]]~~32, ~~where~~ wherein the start point for the switch to an alternative content stream is ~~can be~~ based on an amount of time from a detectable event in ~~the a~~ video stream, including such as the DTMF a Dual Tone Multi-Frequency (DTMF) signal and other trigger mechanisms or data elements that ~~can be~~ are used as trigger mechanisms within analog or digital streams.

35. (currently amended) The method ~~methods~~ of claim ~~[[1]]~~2, ~~where~~ wherein the matching is ~~can be~~ based on geographical locations and ~~the locations and the receiver's~~ knowledge of its location ~~are based on the technology used to implements~~ for implementing black-outs within the receiver, through ~~a matching of content to each area within the black-out~~ pattern.

36. (currently amended) The method ~~methods~~ of claim 1, ~~where~~ wherein the user's viewer's inputs are ~~can be~~ recorded, and reported and used to calculate ~~the a~~ probability of ~~which~~ one of a plurality of viewers ~~viewer~~ within a household was ~~watching the program~~ viewing the displayed version of content at ~~any a~~ given time.

37. (currently amended) The methods of claim 1, ~~where the~~ wherein a level of detail of detail ~~to be reported can be~~ the reporting is based on a ~~the permission the viewer~~ user has agreed to, and the level ~~can be~~ is controlled within the receiver ~~functions~~.

38. (currently amended) The method ~~methods~~ of claim 37, wherein ~~where~~ the viewer's permission is obtained by one or more of ~~the following~~:

• ~~An an~~ an agreement at the time of acquisition of the receiver by the viewer, ~~which may be obtained through a subsidized purchase or rental price,~~

• ~~A a~~ a reduction in the price of the service, ~~or a credit towards specific services, and~~

• ——— A a direct payment to the viewer.

39. (currently amended) The method ~~methods~~ of claim 1, ~~where~~ wherein the viewing of the ~~selected~~ versions of content ~~alternative can be~~ is deemed to be uninterruptible, regardless of the action taken by the viewer ~~user~~ on the inputs to the receiver.

40. (currently amended) The method ~~methods~~ of claim 1, ~~where the~~ wherein indications that the version of content is being recorded or is scheduled to be recorded at a later time ~~can be~~ is used as a criteria for matching the version of content to the content targeting opportunity.

41. (withdrawn) A method for providing copy protection on the content being transmitted by using existing copy protection indicators and/or extensions to those indications to indicate one or more of the following restrictions are in place for the content:

- The receiver is not permitted to record the content to storage
- The receiver is permitted to hold only enough content in storage to allow a pause feature to be implemented. The pause feature may also include a limited amount of rewind time
- The receiver is permitted to record the content to storage, but only if encryption facilities are available. The encryption and subsequent decryption and playback, may require the facilities of the conditional access system.
- Limitations may be placed on the playback, including time limits and number of replays
- The receiver must include analog copy protection mechanisms within the video signal to prevent recording on VCRs
- The ability to record and replay and the time limits and number of replays may be subject to permissions assigned by a conditional access system, or as part of rights acquired during the purchase of a pay-per-view event.

42. (withdrawn) The methods of claims 2, where the storage is a pool of storage available on any of the connected networks, and the content is managed in a manner that any specified piece of content is only stored once on the network, even though multiple users or the

content selection methods for those users have requested storage of the content

43. (withdrawn) The method of claim 2, where the characteristics of content that is already stored can be updated by transmitting changes to the characteristics

44. (withdrawn) The method of claims 1, where multiple versions of interactive applications can be sent on and cached from one stream, and triggered after the service has been switched to an alternative content stream.

45. (withdrawn) The methods of claim 1, where the receiver can have the ability to handle multiple content streams simultaneously, and the facilities for handling a separate stream is used for tuning to or queuing from storage the alternate content display to allow a seamless or near-seamless transition to and from the alternate stream.

46. (withdrawn) The methods of claim 1, where the content can be modified to accommodate delays in tuning to and returning from the alternate content selection. These modifications can include designing the content so that the start and end portions are less relevant and not significant to the message if missed; a temporal compression of the alternate content so that the start and end are blank or irrelevant for the amount of time it takes, and the message is shortened from its original length through accelerated playback or the removal of selected frames to fit within the shortened display time.

47. (withdrawn) The methods of claim 1, where the selection of the content alternatives, the selection and attribution of characteristics to opportunities and content, the transmission mechanisms selected for the content and opportunities, and the methods used for matching the content and opportunities can be based on yield management methods, an example of which is optimal dynamic pricing.

48. (currently amended) A method ~~of~~ for informing a receiver connected to one or more broadcast networks of a content targeting opportunity and in response, ~~for the receiver to exercise the opportunity~~ by selecting and displaying a version of content from a plurality

~~selection of versions of~~ content, the method comprising the steps of:

~~receiving and storing characteristics of a information about the viewer~~[[;]],
~~receiving and storing characteristic information about~~ a selection of content[[;]], ~~and~~
~~receiving and storing characteristic information about~~ viewing opportunities;
determining which versions of content are physically accessible to the receiver[[;]] ~~and~~
~~determining~~ which versions of the content the receiver is permitted to access;
~~performing~~ ~~running~~ an opportunity matching process to determine which accessible and
permitted versions of the content match the viewer, viewing opportunity and selection of content
characteristics;
~~accessing and displaying the~~ determined versions of content for viewing when the
opportunity is received ~~exercised~~;
storing the results of the ~~event~~ viewing of the determined versions of content; and
reporting the results of ~~information on~~ the content viewing to a reporting facility.

49. (currently amended) A method of selecting and acquiring a version of content from
a ~~selection~~ plurality of versions of content for subsequent targeted content viewing opportunities
by a receiver connected to one or more broadcast networks, the method comprising the steps of:

~~receiving and storing characteristics of~~ ~~characteristic information about~~ the viewer[[;]],
~~receiving and storing characteristic information about~~ a selection of content[[;]], ~~and~~
~~receiving and storing characteristic information about~~ viewing opportunities;
determining which versions of content are physically accessible to the receiver[[;]] ~~and~~
~~determining~~ which versions of the content the receiver is permitted to access;
~~performing~~ ~~running~~ a content matching process to determine which accessible and
permitted versions of the content best match the viewer, viewing opportunity and selection of
content characteristics;
making sufficient space available on local storage; and
~~determining~~ if permission is available to use the local storage accessible to the receiver
with characteristics suitable for real-time playback with predictable content access latency
characteristics ("~~local storage~~");
~~determining if sufficient space is available on local storage~~;
~~deleting content to make space available~~;

acquiring and storing the content on the local storage.

50. (currently amended) A method for ~~the~~ targeting of content presentation to individual users in a broadcast communications network including management and reporting of the content presentation, the method comprising the steps of:

— ~~Receiving~~ receiving from content providers, a plurality of potential versions of content for presentation to users; and

— ~~Presenting~~ presenting to a user a version of content selected from said plurality of versions of potential content based on information known about said user.

51. (currently amended) A method for ~~the~~ targeting of content presentation to individual users in a broadcast communications network including management and reporting of the targeted content presentation, the method comprising the steps of:

— ~~Receiving~~ receiving from content providers, a plurality of potential versions of content for presentation to the users;

— ~~Receiving~~ receiving from a user, requests for viewing of the versions of content and other actions related to triggering the receipt of said versions of content ~~such as 'pause'~~ requests;

— ~~Selecting~~ selecting, using information-known about said user, said requests and said actions received from said user, ~~which of~~ said potential versions of content to present to said user;

— ~~Presenting~~ presenting to said user said selected versions of content; and

— ~~Recording~~ recording and reporting ~~[[the]]~~ a fact that said versions of content were ~~has been~~ presented to said user.

52. (currently amended) A system for ~~the~~ targeting of content presentation to individual users in a broadcast communications network including management and reporting of the content presentation, the system comprising ~~the steps of~~:

— ~~Means~~ means for receiving from content providers, a plurality of potential versions of content for presentation to users; and

— ~~Means~~ means for presenting to a user a version of content selected from said

potential versions of content based on information known about said user.

53. (currently amended) A system for ~~the~~ targeting of content presentation to individual users in a communications network including management and reporting of the targeted content presentation, the system comprising:

— ~~Means~~ means for receiving from content providers, a plurality of potential versions of content for presentation to the users;

— ~~Means~~ means for receiving from a user, requests for viewing of the versions of content and other actions related to the receipt of said versions of content ~~such as 'pause'~~ requests;

— ~~Means~~ means for selecting, using information known about said user, said requests and said actions received from said user, ~~which of~~ said potential versions of content to present to said user;

— ~~Means~~ means for presenting to said user said selected versions of content; and

— ~~Means~~ means for recording and reporting the fact that said versions of content were has been presented to said ~~use~~ user.